

session of a regular fishing license (\$3. - for residents). Small numbers of undersized abalones of all species may be taken by collectors only under a special Scientific Collector's Permit issued by the State Department of Fish and Game (cost \$5.-) generally only to persons affiliated with educational or scientific institutions.

The regulations apply to the taking of abalones alive. Presumably, dead shells washed up on the beach or elsewhere may be collected with impunity but even under these conditions it may be difficult to convince some game wardens that good undersized fresh shells were really "dead" when picked up.

About the Supplement

It is with great regret that we must announce that due to sudden ill health it will not be possible for Miss Steinberg to complete the key to the West Coast Opisthobranchs, nor the glossary. However, we shall proceed with the publication of the portion by Professor Marcus. The key and glossary will be published as soon as possible and will be mailed to those who have purchased the supplement, without additional charge.

— Editor.

New Western Shell Clubs

In the NORTHWEST —

The Northwest Shell Club held an organizational meeting on September 18, 1960, in Seattle, Washington, in the home of Mr. W. Jackson Sallee. The second organizational meeting to approve the charter was held on November 13, 1960, at Point Defiance Aquarium in Tacoma, Washington. At that time there was also a discussion of local dredging.

At the first meeting the following officers were elected: President — Tom Rice, Poulsbo; Vice-President — Dr. Phil Spicer, Centralia; Secretary — Miss Joan Shields, Seattle.

The Club was organized to promote the study of malacology. Any collector interested in this goal is invited to become a member of this new Club. Dues are \$2. per year for full members, \$1. for junior members. Residents of the Pa-

cific Northwest are especially urged to join.

Further information will be furnished upon request by:

Tom Rice, Route 2, Box 483, Poulsbo, Wash. or

Miss Joan Shields, 418 Loretta Pl. # 509, Seattle 2, Washington.

In the SOUTHWEST —

An organizational meeting for a San Diego Shell Club was held in the home of Mrs. Charles Harsh on November 6, 1960. Mr. R. O. Stotter of 1046 Ocean, Imperial Beach, California, will serve as president for the remainder of the year 1960. Mr. William Naylor of 3616 Curlew Street, San Diego, and Mrs. Ray Webb of 730 Date Avenue, Chula Vista, will similarly serve as Vice-President and Secretary, respectively. Information concerning meetings and plans for the future can be provided by these officers.

Methods & Techniques

A Simple Device for Sorting Microscopical Shells from Sand Samples

by

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(With 1 Textfigure)

The task of separating minute shells from sand can be speeded by using a mechanical device to move a thin ribbon of sand under the field of a binocular dissecting microscope. A narrow endless belt, mounted on rollers and hand driven by a wheel connected to one of the roller axles, moves the sand. A hopper, whose exit is slightly narrower than the microscope field is mounted over the centerline of the belt just far enough from the curve of the roller so that the belt beneath the hopper opening is flat. The clearance between the hopper and the belt is adjusted to suit the grain size of the sample by turning a threaded post which controls the

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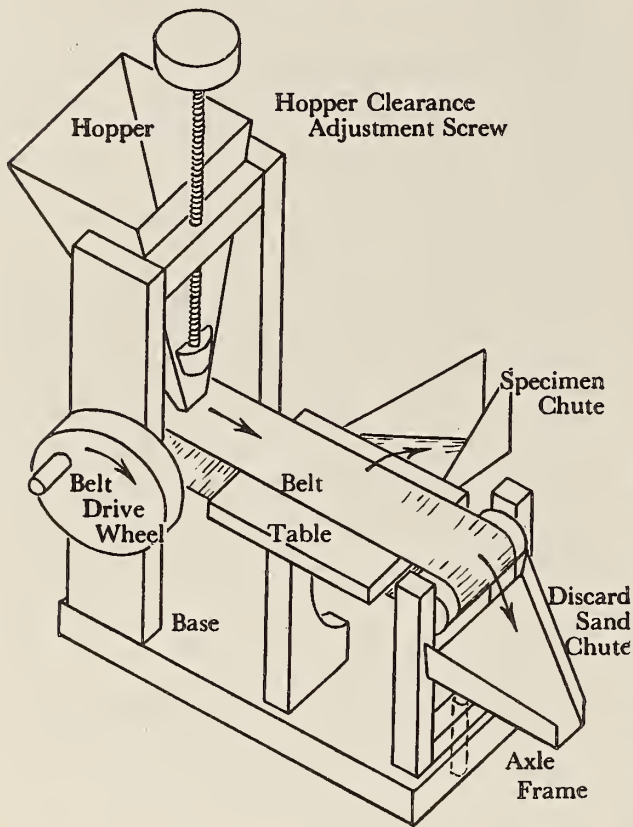
To Describe?

- or NOT To Describe?

by

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movement of the hopper on a pair of vertical slides. Two chutes lead from the belt. One, cemented to a table which supports the belt under the microscope objective, catches shells pushed from the belt by the observer. The other, fitted with a small brush, removes the residual sand from the belt. Provision must be made for removing the axles to change belts and for sliding one of the axle frames along the base to tighten the belt. The walls of the hopper and floors of the chutes should be steep enough to ensure good gravity flow of dry sand. The walls of the chutes should be high enough to prevent individual particles from bouncing out. This device is not intended to be used to sort large shells from fine sand, but rather as an aid to sorting after sieving has produced samples of roughly similar grain size.



The problem whether or not to describe a new species or subspecies, or, for that matter, any other taxon, must be decided by the individual investigator. While the ideal situation would be to await a large amount of material, including living animals, and the results of histological and, possibly, even cytological investigations, as well as breeding experiments, it is obvious that such ideal conditions can rarely, if ever, be obtained. The decision must then be made on the basis of justification. By that is meant: with material available, is the establishment of the new taxon justified? Sometimes if the material available is very scanty, such as a single shell, this question may be answered in the affirmative only under special circumstances.

While there is no supreme authority to whom one may appeal for a binding decision each author might be guided by the following considerations:

A. Is the specimen markedly different from any of the known and probably closely related forms?

B. Was the specimen obtained from a geographically well defined area and are no similar "species" known from that same area?

C. Is there great likelihood that careful search in the "new" area will bring to light additional specimens, but such a search is extremely difficult or almost impossible?

If these three conditions are met, it would seem probable that no describer will be criticized for hasty action. Unfortunately, however, there are certain pitfalls included in the three conditions enumerated.

In condition A the words "markedly different" may be interpreted vastly differently by different students. The more experienced an investigator becomes the more readily will he detect differences that are overlooked by others, and he may be inclined to consider these differences "marked" while a less experienced student